Padanan C++ – Java

IF2210 – Semester II 2020/2021

by: RSP & IL; rev: SAR

C++	Java
1. cctor	1. Tak ada terjemahan
2. ctor initialization list	2. Tak ada
3. Operator overloading	3. Tak ada, fungsi biasa
4. Parameter passing: by value, by ref	4. Hanya by value
5. Templates	5. Kelas generik
6. class	6. public class, private class, protected, package private
7. Inheritance: public, protected, private	7. Inheritance: hanya ada public
8. Multi-inheritance	8. “tidak boleh” + interface
9. ABC (Abstract Base Class)	9. Interface
10. Abstract class	10. Abstract class
11. Pemanggilan ctor base class eksplisit tidak bisa	11. Ctor superclass bisa diinvokasi: `super()` – hanya baris pertama ctor

C++

1. `friend`
2. `main` program tidak mungkin dalam kelas
3. Scope: kelas + file
4. `namespace`
5. `bool`
6. `string`
7. `Try-catch`: tidak ada *keyword* "`finally`"
8. `Throw` objek apapun, walau ada kelas "`exception`"

Java

1. Tidak ada friend
2. `main` adalah *method* statik sebuah kelas
3. *Scope*: kelas (*)
4. `package`
5. `Boolean`
6. `String`
7. `Try-catch`: Ada *keyword* "`finally`"
8. `Throw`: harus objek turunan `throwable`

Class Modifier (Java)

Modifier	Class	Package	Subclass	World
public	Y	Y	Y	Y
protected	Y	Y	Y	N
no modifier	Y	Y	N	N
private	Y	N	N	N

https://docs.oracle.com/javase/tutorial/reflect/class/classModifiers.html

https://docs.oracle.com/javase/tutorial/java/javaOO/accesscontrol.html

The first data column indicates whether the class itself has access to the member defined by the access level. As you can see, a class always has access to its own members. The second column indicates whether classes in the same package as the class (regardless of their parentage) have access to the member. The third column indicates whether subclasses of the class declared outside this package have access to the member. The fourth column indicates whether all classes have access to the member. Access levels affect you in two ways. First, when you use classes that come from another source, such as the classes in the Java platform, access levels determine which members of those classes your own classes can use. Second, when you write a class, you need to decide what access level every member variable and every method in your class should have.

Catatan

- Interface – hanya ada di Java: https://docs.oracle.com/javase/tutorial/java/concepts/interface.html
  - Interface (Java) diterjemahkan menjadi ABC
  - Abstract class CPP menjadi abstract class Java
- Instansiasi kelas generik menjadi kelas spesifik: di Java tidak dapat menggunakan type primitif. Contoh:

```
Stack<int> S;      //tidak mungkin di Java
Stack<Integer> S; // boleh
```